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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,017	01/28/2002	Pascal Magain	MAGAINI	1293

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EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 07/17/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/048,017

Applicant(s)

MAGAIN ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-25 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2 and 6</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application has been filed under 35 U.S.C. § 371 based upon PCT/BE00/00090, filed July 28, 2000 and claims priority to Belgium patent 09900516. The preliminary amendment has been entered, and claims 1-25 are now pending.

Specification

2. The disclosure is objected to because of the following informalities: The disclosure lacks a "Brief Description of the Drawings" section.

Appropriate correction is required.

Claim Objections

3. Claims 1, 2, 4-11, 13-16, 18, 20 and 22 are objected to because of the following informalities:

a. Claims 1, 2, 4-10 and 14-16 include references to the figures that are not necessary in understanding the claim. Furthermore, the same part numbers have been used for two separate parts, i.e. "2" has been used to describe both electrodes and the substrate in claim 1. Also, parts of three different embodiments and figures have been used to describe one component, i.e. "one layer of electroluminescent organic semiconductor (4, 4', 4'')" in claim 2. For the purpose of clarity, it is suggested that the figure numbers in the claims be removed.

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- b. In claim 2, the last line, in the phrase "of the light" should be changed to "of light".
- c. In claims 11 and 13, it is suggested the phrase "chosen from amongst" be changed to "selected from".
- d. In claim 16, it is suggested "possibly connected" be changed to "optionally connected".
- e. In claim 18, it is suggested "the light" in line 8, page 14 be changed to "light".
- f. In claim 18, it is suggested "possibly" in line 10 be changed to "optionally".
- g. In claim 20, "fulfil" should be changed to "fulfill".
- h. In claim 22, it is suggested "first of all" be changed to "a first step of".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. In claim 16, the description of the second part of the substrate is not understood. The phrase "insulated vis-à-vis the outside" is not understood. The relationship of the second part of the substrate and the outside of the device is not clear. The intended

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meaning of "vis-à-vis" can not be ascertained by way of the drawings either. Clarification and/or correction are required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsieh et al. (US 5,674,635). Hsieh et al. discloses an electroluminescent device comprising a substrate (2), anode (3), organic electroluminescent layer (7), and cathode (6) (see figure 2 and col. 3, lines 25-36). The substrate (2) is comprised of metals including gold and aluminum per the instant substrate comprised of metal (see col. 3, lines 37-40). The substrate supports the anode electrode (3), which is connected to a current source per instant claim 7 (see figure 2). Hsieh et al. discloses all components of a light emitting device according to claims 1 and 7.

9. Claims 1, 2, 7, 18, and 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Yap (US 6,307,528). Yap discloses contrast organic light-emitting displays (see front page). A device according to the Yap invention includes a substrate

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(10), low-reflectance film (12), lower electrode (14), organic luminescent layer (16), and upper electrode (18) (see figure 1a and col. 3, lines 43-60). A metal substrate is used due to the superior thermal conductivity characteristic of the metal and the ability of the metal to dissipate heat per the instant metal substrate (see col. 4, lines 19-22). The upper electrode is typically the cathode and both electrodes are disclosed as transparent. The cathode (18) is comprised of magnesium-silver thin enough that it appears semi-transparent per the instant claim 2 and 18 limitation wherein the second electrode allows at least partial passage of light (see col. 4, lines 47-57). Per instant claim 7, the substrate (10) supports the first electrode (14) and the two electrodes (14) and (18) are connected to a current source (see col. 8, lines 53-58 and figure 2a). Per instant claim 22, the surface of the substrate is coated with a low reflectance film (12) (see col. 4, lines 23-34). Per instant claims 23 and 24, application of the anode to the substrate reads upon the treatment of coating with a conductive material. Yap discloses all components and methods of instant claims 1, 2, 7, 18, and 21-24.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh et al. (US 5,674,635). Hsieh et al. is relied upon for the rejection of instant claim

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1 as set forth above. Hsieh et al. discloses an electroluminescent device comprising a substrate (2), anode (3), organic electroluminescent layer (7), and cathode (6) (see figure 2 and col. 3, lines 25-36). The substrate (2) is comprised of metals including gold and aluminum per the instant substrate comprised of metal (see col. 3, lines 37-40).

The substrate supports the anode electrode (3), which is connected to a current source (see figure 2). Hsieh fails to specifically teach the substrate itself is connected to the current source per instant claim 4, the substrate is one of the electrodes per instant claim 5 or that the substrate is in electrically conductive contact with one of the said two electrodes per instant claim 6. Hsieh does, however, teach that the substrate may be metal and the substrate is adjacent the conductive anode. It would have been obvious to one of ordinary skill in the art to use connect the current source to the metal substrate, because both the metal and the anode adjacent the metal substrate are conductors of electricity.

12. Claims 3 and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh et al. (US 5,674,635) in view of Schachter et al. (US 4,509,066). Hsieh et al. is relied upon as set forth above for the rejection of instant claim 1. Hsieh et al. discloses an electroluminescent device comprising a substrate (2), anode (3), organic electroluminescent layer (7), and cathode (6) (see figure 2 and col. 3, lines 25-36). The substrate (2) is comprised of metals including gold and aluminum per the instant substrate comprised of metal (see col. 3, lines 37-40). The substrate supports the anode electrode (3), which is connected to a current source (see figure 2). Hsieh fails to specifically teach the metal substrate is comprised of a steel material. Schachter

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teaches substrates for an electro-optical device comprising aluminum or stainless steel (see abstract and col. 1, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected stainless steel as the metal for the Hsieh et al. device, because Schachter teaches aluminum and stainless steel are equivalent substrate materials in the art of electro-optical devices. The stainless steel substrate is deemed to have undergone a surface treatment by way of being formed into a steel sheet during manufacturing per instant claim 8. Stainless steel comprises components such as iron, chromium, nickel and/or molybdenum, which is deemed to read upon the conductor of electricity in the surface of the stainless steel substrate per instant claim 9. The anode disposed on the stainless steel substrate reads upon the surface coating which is a conductor of electricity per instant claim 10. The anode may comprise oxidized tin per instant claim 11 (see col. 4, lines 1-3). The anode may also comprise conductive polymers such as polyaniline or polypyrrole per instant claims 12 and 13 (see col. 4, lines 1-4). Per instant claim 14, the stainless steel substrate is deemed to be a reflective material absent evidence otherwise.

13. Claims 15 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yap (US 6,307,528) in view of Ito et al. (US 5,652,067). Yap is relied upon for the rejection of claims 1 and 18 as set forth above. Yap discloses contrast organic light-emitting displays (see front page). A device according to the Yap invention includes a substrate (10), low-reflectance film (12), lower electrode (14), organic luminescent layer (16), and upper electrode (18) (see figure 1a and col. 3, lines 43-60). The upper electrode is typically the cathode and both electrodes are disclosed as transparent. Yap

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fails to teach a transparent material is formed over the top electrode in order to protect the cathode from destructive atmospheric air and water. Ito et al. teaches, in analogous art, protective layers over the uppermost electrode of an organic electroluminescent device including a glass sheet (see col. 19, lines 62-65). It would have been obvious to one of ordinary skill in the art to have added a transparent protective covering over the Yap EL device to increase the durability of the device, because Ito et al. teaches such as covering provides the benefit of protecting the device from atmospheric deterioration.

14. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yap (US 6,307,528) in view of Schachter. Yap is relied upon as set forth above for the rejection of claim 18. Yap discloses contrast organic light-emitting displays (see front page). A device according to the Yap invention includes a substrate (10), low-reflectance film (12), lower electrode (14), organic luminescent layer (16), and upper electrode (18) (see figure 1a and col. 3, lines 43-60). A metal substrate is used due to the superior thermal conductivity characteristic of the metal and the ability of the metal to dissipate heat per the instant metal substrate (see col. 4, lines 19-22). The upper electrode is typically the cathode and both electrodes are disclosed as transparent. Yap fails to teach specifically the metal substrate is comprised of a steel material or that the steel substrate is part of an electrode per instant claims 19 and 20. Schachter teaches substrates for an electro-optical device comprising aluminum or stainless steel (see abstract and col. 1, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected stainless steel as the metal for the Yap device, because Schachter teaches aluminum and stainless steel are equivalent

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substrate materials in the art of electro-optical devices. Per instant claim 20, it would have been obvious to one of ordinary skill in the art to connect the current source to the metal substrate, because both the metal and the anode adjacent the metal substrate are conductors of electricity.

Allowable Subject Matter

15. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or to render obvious a substrate with a conducting part and an outside, insulated part according to claim 16 as presently understood by the examiner. The prior art also fails to disclose or to render obvious a second electroluminescent device disposed on an opposing side of the substrate in combination with all the other device components required by claim 17.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (703) 305-0788. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached at (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.


DAWN GARRETT
PATENT EXAMINER
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D.G.
July 12, 2003